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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,162

05/05/2006

Fabrizio Gasparini

33364-US-PCT

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09/25/2009

MONTGOMERY, MCCRACKEN, WALKER & RHOADS, LLP
123 SOUTH BROAD STREET
AVENUE OF THE ARTS
PHILADELPHIA, PA 19109

EXAMINER

ROBINSON, BINTA M

ART UNIT

PAPER NUMBER

1625

MAIL DATE

DELIVERY MODE

09/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,162	Applicant(s) GASPARINI ET AL.	
	Examiner BINTA M. ROBINSON	Art Unit 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Detailed Action

The obvious double patenting rejection and the 103 (a) rejection of claims 1,2, 4, and 5 over copending application 11823310 in view of Patani et. al is withdrawn in light of applicant's amendment filed 6/5/09. The 112, first paragraph rejection of claims 1-6 are withdrawn in light of applicant's comments and amendments filed 6/5/09. The 112, second paragraph rejection of claim 6, is withdrawn in light of applicant's amendment filed June 5, 2009.

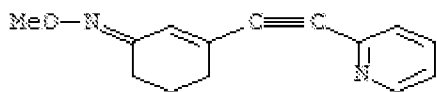
(New rejections)

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hcaplus Abstract 2001:167983 (WO 200101621, Cosford et. al.), and further in view of Blake et. al. and Patani et. al.

Hcaplus Abstract 2001:167983 teaches the compound



. The difference between the prior art compound and the instantly claimed compounds and compositions is the teaching of a substitution at the 2 position of the pyridyl ring, where by various forms of radiolabeled methyl (radiolabeled with stable isotopes) as stipulated in claim 1 can be the substituent in this

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position in the instant compound, whereas in the prior art compound, hydrogen is at the 2 position of the pyridyl ring. Patani teaches that bioisosteres are compounds that elicit similar biological activity which is attributable to common physicochemical properties.

See page 3148 of Patani et. al. Patani also teaches that Langmuir compared the physical properties of various molecules and found them to be similar, and identified 21 groups of isosteres. Patani et. al. teaches that the widespread application of the concept of isosterism to modify biological activity has given rise to the term bioisosterism, and that more recently, the definition of bioisosterism has been broadened to mean “compounds or groups that possess near-equal molecular shapes and volumes, approximately the same distribution of electrons, and which exhibit similar physical properties...” See page 3148. Patani et. al. also teaches that the critical component of bioisosterism is that bioisosteres affect the same pharmacological target as agonists or antagonists and thereby, have biological properties which are related to each other. Page 3152 of Patani et. al. teaches that methyl is a bioisosteric replacement for hydrogen.

Blake et. al. teaches that Stable isotopes are proving useful as tracers for drug distribution and metabolism studies. See page 385 of Blake et. al. Blake also teaches that the many advantages of stable isotopes for these purposes include the absence of possible radiation hazards, especially important where children and pregnant women are concerned.

The instant compounds are radiolabeled bioisosteres of the prior art compounds.

Cosford et. al. (See WO 2001016121) teaches that the prior art compounds can modulate metabotropic glutamate receptors. See page 120, claim 61 of Cosford.

It would have been obvious to one of ordinary skill in the art to synthesize radiolabeled bioisosteres of this class of compounds for use as neuroimagers since radiolabeled compounds radiolabeled with stable isotopes are useful as tracers for drug distribution and metabolism studies. It would have been obvious for one of ordinary skill in the art to modify the prior art compounds to synthesize bioisosteres of the prior art compounds, because the field of neuroimaging includes the use of various techniques to either directly or indirectly image the structure, function/pharmacology of the brain. It is a relatively new discipline within medicine and neuroscience/psychology.

Neuroimaging falls into two broad categories:

- Structural imaging, which deals with the structure of the brain and the diagnosis of gross (large scale) intracranial disease (such as tumor), and injury, and
- Functional imaging which is used to diagnose metabolic diseases and lesions on a finer scale (such as Alzheimer's disease) and also for neurological and cognitive psychology research and building brain-computer interfaces.

Accordingly, the compounds and compositions are deemed unpatentable therefrom in the absence of a showing of unexpected results for the claimed compounds and compositions over those of the prior art compounds.

Claim 3 is objected to for being based on a rejected claim.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binta M. Robinson whose telephone number is (571) 272-0692. The examiner can normally be reached on M-F (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0670.

A facsimile center has been established. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier numbers for accessing the facsimile machine are (703)308-4242, (703)305-3592, and (703)305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

/Binta M Robinson/
Examiner, Art Unit 1625

/Janet L. Andres/
Supervisory Patent Examiner, Art Unit 1625